

**REMARKS**

Reconsideration of this application is respectfully requested.

Claims 1-3, 5, 7-9, 11, 15, 16, 24-34, 40 and 41 have been amended, and claims 4, 6, 10, 20 and 35-39 have been deleted. Upon entry of this amendment, the pending claims will be claims 1-3, 5, 7-9, 11-19, 21-34, 40 and 41, with claim 13 being withdrawn from consideration.

On page 2 of the Official Action, it is stated that Figures 25-30 and 34-38 should be designated as "Prior Art". Corrected drawings are required.

Corrected drawings are being submitted herewith.

Accordingly, the requirement for corrected drawings should be withdrawn.

On pages 2 and 3 of the Official Action, a reminder is provided of the proper language and format of the Abstract of the Disclosure. However, no problems with the present Abstract are indicated and there is no requirement to correct the Abstract.

The Abstract has been reviewed, and there would appear to be no changes needed to the Abstract.

For the reasons given on page 3 of the Official Action, claims 7 and 11 are objected to.

These objections have been obviated by rewording claims 7 and 11, as per the foregoing amendments.

For the reasons given on pages 3-5 of the Official Action, claims 1-16, 30-37, 40 and

41 are rejected under 35 USC 112, second paragraph, and particular reasons for this rejection are provided. On page 6 of the Official Action, it is stated that these particular reasons are only examples of the Examiner's problems with the claims under 35 USC 112, second paragraph. The Examiner states that all of the claims should be carefully checked so that they conform to 35 USC 112, second paragraph.

All of the claims have been carefully checked. The foregoing amendments are believed to solve any problems with 35 USC 112, second paragraph, which the Examiner might have.

Accordingly, the rejections under 35 USC 112 should be withdrawn.

For the reasons given on pages 6 and 7 of the Official Action, claims 1 and 3-6 are rejected under 35 USC 102(b) over JP 1-98312 ('312 or JP '312).

This rejection is respectfully traversed.

Claim 1 has been amended to recite that said sealing members are disposed between a core body and a cylindrical resin-formed body in the vicinity of both edge parts of the resin-formed body, when the resin roller is in the condition of being removed from the forming metal mold. This condition is not possible in JP '312.

In the Official Action, it is stated that members (11a) and (13) of JP '312 are sealing members. However, it would appear that these members (11a) and (13) are not the type of sealing members, which prevent resin leakage during manufacture, in the manner of the sealing members recited in the presently amended version of claim 1.

Regarding claim 3, JP '312 does not suggest a structure having both cylindrical members (25) and sealing members (24), as illustrated in Figure 2 of the present application.

Claim 4 has been deleted and its embodiments have been included in claim 1, as per the foregoing amendments.

Regarding claim 5, JP '312 does not suggest O-ring sealing members (24) within grooves (27), as illustrated in Figure 5 of the present application.

The rejection of claim 6 has been obviated by the foregoing amendments, whereby claim 6 has been deleted.

The present claims and those of JP '312 are completely different in their purposes since, while the present application has the purpose of preventing a resin from inflowing into the core material portion during forming, JP '312 has the purpose of securing the electro-conductivity of the core material portion. In addition, the process of JP '312 cannot prevent a resin from inflowing into the core material portion during forming.

For the reasons given on pages 7 and 8 of the Official Action, claims 7, 17, 18, 40 and 41 are rejected under 35 USC 102(b) over the disclosure of the Takahashi U.S. Patent No. 5,089,201.

This rejection is respectfully traversed.

Regarding claim 7 and referring to Figure 1 of the present application, the Takahashi patent does not suggest the presence of sealing members (24) in the resin forming space (15).

Referring to Figure 1 of the Takahashi patent, sealing members (40) are clearly outside of

the resin forming space (50).

Regarding claim 17, column 2, lines 1-2 of the Takahashi patent is cited in the Official Action. This passage states that an elastic material is introduced by pressurization or vacuum evacuation. Therefore, the rejection of claim 17 seems to be based on an alleged implicit suggestion of a mold-inner pressure adjusting mechanism.

Regarding an “adjustment” of the mold-inner pressure, while the present invention adjusts the mold-inner pressure with use of an adjusting valve over the period including that for resin forming under heating, the Takahashi patent only states that pressure application or vacuum exhaust is performed during resin injection into the mold, and the word “adjustment” is not found.

Since the Applicant considers that the usual meaning of “adjustment” is to control so as to maintain a certain constant state, the Applicant believes that one cannot assume the provision of an adjusting mechanism only from the description such as pressure application and vacuum exhaust.

Furthermore, from the Figures of the Takahashi patent, it is difficult to conjecture the mold-inner pressure adjusting mechanism of the present invention as well as the mold-inner pressure adjustment during heating.

Regarding claim 18, feature (30A) of the Takahashi patent is cited in the Official Action. However, as stated at column 2, line 46, feature (30A) merely represents an injection hole. This injection hole does not suggest the presently claimed volume variable

spare room (220), as illustrated in Figures 9 and 10 of the present application.

Regarding claims 40 and 41, the molds of these claims are different in structure from the mold of the Takahashi patent. According to the present claims, it is stated that, at an opening edge of a core holding hole, a ring shaped concave groove is formed whose diameter is larger than the outer diameter of the core body. Such a structure is very similar to that of the Takahashi patent since the core body is not one with a constant diameter. However, the structure of the portion for resins forming is different from that of the claims 40 and 41.

For the reasons given on pages 8 and 9 of the Official Action, claims 8, 10 and 35-37 are rejected under 35 USC 102(b) over the disclosure of the Tavelle et al U.S. Patent No. 3,941,635.

This rejection is respectfully traversed.

Regarding claim 8, this claim has been amended in the foregoing amendments to recite that chamfering or rounding takes place by thermal decomposition of resin material. The Tavelle patent does not suggest this type of chamfering or rounding.

In the Tavelle patent, the forming mold is provided with rounded edges, and rounded edges are formed in the molding process.

The amendment to claim 8 is supported by the paragraph bridging pages 56 and 57 of the present specification, as well as by claim 12 of the original claims.

The rejection of claim 10 has been obviated by the foregoing amendments, whereby

claim 10 has been deleted.

Regarding the rejection of claims 35-37, this rejection has been obviated by the foregoing amendments, whereby claims 35-37 have been deleted.

For the reasons given on pages 9 and 10 of the Official Action, claims 30-33 are rejected under 35 USC 102(b) over the disclosure of the Nauta U.S. Patent No. 3,619,446.

This rejection is respectfully traversed.

The Nauta patent does not disclose an obliquity tilting at a fixed angle. In the Official Action feature (26) of the Nauta patent is said to be an obliquity. However, this feature extends perpendicularly from the axial direction of the outer wall face. An obliquity is defined as being in the state of neither perpendicular nor parallel to a given line or surface; slating; sloping. Therefore, feature (26) is not an obliquity. Such an obliquity is represented by faces (305e and 306e) in Figure 14 of the present specification.

For the reasons given on pages 10 and 11 of the Official Action, claims 35 and 36 are rejected under 35 USC 102(b) over the disclosure of the Uchida JP 3-161331 (JP '331).

This rejection has been obviated by the foregoing amendments, whereby claims 35 and 36 have been deleted.

For the reasons given on page 11 of the Official Action, claim 2 is rejected under 35 USC 103(a) over the disclosure of the Verboom et al U.S. Patent No. 4,325,170.

This rejection is respectfully traversed.

The Verboom patent does not disclose or suggest the presence of an E-ring as recited

in the present claim 2.

In the Official Action, it is stated that rings (15) of the Verboom patent contact sealing members (11a). However, at column 2, lines 54-62 of the Verboom patent, feature (15) is characterized as a circular tooth arrangement. There would not appear to be a feature in the Verboom patent identified as (11a). The Verboom patent does disclose O-rings (134). However, O-rings are not E-rings. Furthermore, the Verboom patent discloses a deflection controlled cylinder, which lacks many of the features of the resin roller recited in the present claim 2.

For the reasons given on page 12 of the Official Action, claim 9 is rejected under 35 USC 103(a) over the disclosure of the Tavelle patent, in view of the disclosure of the Saito et al U.S. Patent No. 5,934,663.

This rejection is respectfully traversed for the same reasons that the rejection of claim 8 over the disclosure of the Tavelle patent was traversed.

The present claim 9 depends from claim 8. The disclosure of the Saito patent fails to overcome the deficiencies of the Tavelle patent in suggesting the embodiments of claim 8.

For the reasons given on pages 12-14 of the Official Action, claims 11, 12, 15 and 16 are rejected over the disclosure of the Namiki U.S. Patent No. 4,313,981, in view of the disclosure of the Takahashi patent and the disclosure of the Scholz et al U.S. Patent No. 5,660,092.

This rejection is respectfully traversed.

The patents applied against claims 11, 12, 15 and 16 fail to recognize the problem caused by thermal shrinkage of the resin, whereby the edge parts have a swollen appearance.

Regarding the rejection of claim 15, issue is respectfully taken with the statement that it is inherent that the resin will swell during forming of the resin layer. The resin in claim 11 actually shrinks during cooling. Whether a resin shrinks or swells during formation would depend upon the composition of the resin and the manner in which the resin is formed.

For the reasons given on pages 14 and 15, claim 14 is rejected under 35 USC 103(a) over the disclosure of the Namiki U.S. Patent No. 4,313,981, in view of the disclosure of the Takahashi patent and the disclosure of the Scholz et al U.S. Patent No. 5,660,092, and further in view of the disclosure of the Saito et al U.S. Patent No. 5,934,663.

This rejection is respectfully traversed.

The Saito patent fails to make up for the deficiencies of the other patents in suggesting the embodiments of claim 11, from which claim 14 depends.

For the reasons given on page 15 of the Official Action, claim 19 is rejected under 35 USC 103(a) over the disclosure of the Takahashi patent.

This rejection is respectfully traversed.

Claim 19 has been amended herein to depend from claim 18 alone. Claim 18 is clearly distinguished from the disclosure of the Takahashi patent for reasons given above.

For the reasons given on page 15 of the Official Action, claim 20 is rejected under 35 USC 102(b) over the disclosure of the Takahashi patent.



This rejection has been obviated by the foregoing amendments, whereby claim 20 has been deleted.

For the reasons given on pages 16 and 17 of the Official Action, claims 21-29 are rejected under 35 USC 103(a) over the disclosure of the Takahashi patent, in view of the disclosure of the Sonobe et al U.S. Patent No. 5,033,380.

This rejection is respectfully traversed.

In the Official Action, it is acknowledged that the Takahashi patent does not suggest the separate storage of resin containing a cross linking agent and resin containing a catalyst, mixing the two resins and then pouring the resin mixture into a mold. The passage at column 2, lines 46-50 of the Sonobe patent is relied upon for making up these deficiencies of the Takahashi patent. However, column 2, lines 46-50 of the Sonobe patent merely states:

... the steps of: adding a hardener, hollow microballoons to a material whose main component is a resin, and mixing the hardener, hollow microballoons, and the material, thereby forming a mixture; pouring the mixture into a mold containing a core roller . . .

This passage does not suggest mixing the two resin components, one including a hardener and the other including a catalyst, as called for in claims 21-29, and discussed in the present specification in connection with Embodiment 7 on pages 74-85, with reference to Figure 11.

Accordingly, the Sonobe patent does not make up for the deficiencies of the

Takahashi patent in suggesting the embodiments claimed in claims 21-29.

By maintaining separate resin sources, which are mixed just prior to injection into the mold, the need for cooling equipment used in the prior art is avoided, as discussed on page 75, lines 3-5 of the present specification. This arrangement also enhances the throughput of material through the mold.

For the reasons given on page 17 of the Official Action, claim 34 is rejected under 35 USC 103(a) over the disclosure of the Nauta patent.

This rejection is traversed for reasons given above in connection with the rejection of claims 30-34.

The Nauta patent does not suggest any tilt angle. It is not obvious that one would generate a tilt angle from any attempt to optimize the embodiments described in the Nauta patent. Pursuant to MPEP 2144.03, the Examiner is challenged to provide evidence for the assertion that it is well known in the art to have made the tilt angle in the range claimed in claim 34.

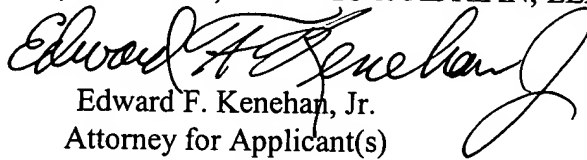
Accordingly, the rejections under 35 USC 102 and 103 should be withdrawn.

Allowance is requested.

In the event that this paper is not timely filed, Applicant respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Edward F. Kenehan, Jr.  
Attorney for Applicant(s)  
Reg. No. 28,962

1250 Connecticut Avenue, N.W. Suite 700  
Washington, D. C. 20036  
202-822-1100 (t)  
202-822-1111 (f)